SCIENTIFIC NOTE

Gray Pineapple Mealybugs, *Dysmicoccus neobrevipes* Beardsley (Homoptera: Pseudococcidae), Inside Closed Pineapple Blossom Cups

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ABSTRACT. Gray pineapple mealybugs, *Dysmicoccus neobrevipes*, were found inside the closed blossom cups of pineapple fruit. This phenomenon may have serious implications for the spread of mealybugs and wilt disease. Current pineapple quarantine procedures only require inspection of the fruit exterior to check for insect infestation.

INTRODUCTION

The gray pineapple mealybug, *Dysmicoccus neobrevipes* Beardsley, and the pink pineapple mealybug, *Dysmicoccus brevipes* (Cockerell), are of major economic importance in Hawai'i because of their association with mealybug wilt disease of pineapple (Rohrbach et al. 1988). These mealybugs have a symbiotic relationship with the fire ant (*Solenopsis geminata* Fabricius), Argentine ant (*Iridomyrmex humilis* (Mayr)), and big-headed ant (*Pheidole megacephala* (Fabricius)) (Beardsley et al. 1982; Carter 1967; Ito 1936; Jahn 1990, 1992, Reimer et al. 1990). Petty (1978) reported that pineapple mealybugs feed internally in the blossom cavities (i.e., blossom cups) of pineapple. Which mealybug species he was referring to is not known because he grouped the gray and pink pineapple mealybugs as the species *D. brevipes*. Apparently, Petty was unaware that Beardsley (1959) separated the gray and pink pineapple mealybugs into 2 different species. James Koga, Agricultural Research Division of Maui Pineapple Company, Ltd., showed me live gray pineapple mealybugs inside the closed blossom cups of pineapple fruit at Honolua, Maui, Hawai'i. John W. Beardsley also observed *D. neobrevipes in* closed pineapple blossom cups on Moloka'i in 1979 (pers. comm.). I examined 30 unripe pineapple fruits from an abandoned field in Honolua. All fruits contained live mature and immature *D. neobrevipes* in over half of their blossom cups. Presumably the mealybugs enter the open blossom cups during anthesis, as indicated by immature mealybugs inside of open blossom cups. Some green pineapples had openings in the fruitlets, which were plugged with soil. When soil plugs were removed, live big-headed ants and live gray pineapple mealybugs were found inside the fruitlets. It is not known if ants prevent fruitlets from closing, if ants dig burrows to the enclosed mealybugs, or if ants find and cover those fruitlets that have not closed for some other reason. The occurrence of *D. neobrevipes* inside closed pineapple blossom cups may have serious implications for the spread of mealybugs and wilt disease. Current quarantine procedures only require external inspection of pineapple fruit.

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